

I. AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 46 (Canceled).

47. (Currently Amended) A method for screening and identifying a human colorectal cancer patient ~~subject~~ for sensitivity to a thymidylate synthase (TS) – directed chemotherapeutic drug, comprising:

determining the genotype of a ~~subject's~~ biological sample isolated from the human patient at a tandemly repeated 28 base pair sequence in the 5' untranslated region (UTR) of a TS gene in the biological sample; ~~of~~ and

correlating said genotype to said sensitivity to TS – directed chemotherapy, wherein the presence of a double repeat of the 28 base pair tandemly repeated sequence in the 5' UTR of the TS gene identifies the human colorectal cancer patient as sensitive to the TS – directed chemotherapeutic drug.

48. (Currently Amended) The method of claim 47, wherein said biological sample consists of colorectal cancer ~~tumor~~ cells or normal cells.

49. (Canceled).

50. (Canceled).

51. (Canceled).

52. (Previously Presented) The method of claim 47, wherein TS directed drug is a fluoropyrimidine.

53. (Previously Presented) The method of claim 52, wherein the fluoropyrimidine is 5-fluorouracil.

54. (Canceled).

55. (Canceled).

56. (Previously Presented) The method of claim 47, wherein said determining the genotype is by analysis of the polymerase chain reaction product of the 5'UTR.

Claims 57 - 60 (Canceled).

61. (Currently Amended) The method of claim 47, wherein the ~~subject's~~ biological sample ~~fluid~~ comprises a body fluid.

62. (Currently Amended) The method of claim 61, wherein the body fluid comprises ~~is selected from the group consisting of blood or and~~ semen.

63. (Currently Amended) The method of claim 47, wherein the biological sample comprises ~~is selected from the group consisting of~~ peripheral blood cells.

64. (Previously Presented) The method of claim 47, wherein the biological sample is selected from the group consisting of liver cells, skin cells, blood cells, hair cells and semen cells.

65. (Currently Amended) The method of claim 47 ~~64~~, wherein the biological sample is preserved.

66. (Currently Amended) The method of claim 47 ~~any one of claims 61 to 65~~, wherein the subject's biological sample comprises normal cells.

67. (Canceled).

68. (New) A method for determining if a colorectal cancer patient is sensitive to chemotherapy comprising administration of a fluoropyrimidine, the method comprising determining the genotype of the patient at a 28 base pair repeat sequence in the 5' untranslated region (UTR) of the thymidylate synthase gene isolated from the patient's blood cells, wherein the patient is determined to be sensitive to the fluoropyrimidine therapy when the genotype is heterozygous or homozygous for the 28 base pair double repeat in the 5' UTR.

69. (New) The method of claim 68, wherein the fluoropyrimidine is fluorouracil.
70. (New) The method of claims 47 or 68, further comprising administering an effective amount of a fluoropyrimidine to the patient identified as sensitive to said fluoropyrimidine therapy.